



IFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Applicant: James Tour, et al.

Docket Number: 122302.00012

Serial No.: 10/764,092

Art Unit: ****

Filed: January 23, 2004

Examiner: ****

For: **Process and Apparatus for Microwave Desorption of Elements
or Species from Carbon Nanotubes**

INFORMATION DISCLOSURE STATEMENT

June 16, 2004

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

MAILING CERTIFICATE UNDER 37 C.F.R. §1.8(A)
I hereby certify that the above correspondence is being deposited with
the U.S. Postal Service as First Class Mail in an envelope addressed
to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA
22313-1450 June 16, 2004.

Lisa Lynch

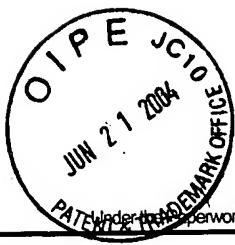
Dear Sir:

Applicant wishes to bring to the attention of the Patent and Trademark Office the information noted on the enclosed PTO-1449. Copies of the noted references are enclosed herewith.

Respectfully submitted,

Michael G. Cameron
Jackson Walker, LLP
2435 North Central Expressway, Suite 600
Richardson, TX 75080
(972) 744-2934

Michael G. Cameron
Reg. No. 50,298
Attorney for Applicant



PTO/SB/08B(10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

1 of 4

Complete if Known	
Application Number	10/764,092
Filing Date	January 23, 2004
First Named Inventor	James Tour
Group Art Unit	unknown
Examiner Name	unknown
Attorney Docket Number	122302.00012

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		P.M. AJAYAN, M. TERRONES, A. DE LA GUARDIA, V. HUC, N. GROBERT, B.Q. WEI, H. LEZEC, G. RAMANATH, T.W. EBBESSEN, Nanotubes in a Flash-Ignition and Reconstruction, Science, Vol. 296, pg. 705, April 26, 2002.	
		MICHAEL J. BRONIKOWSKI, PETER A. WILLIS, DANIEL T. COLBERT, K.A. SMITH, AND RICHARD E. SMALLEY, Gas-Phase Production of Carbon Single-Walled Nanotubes from Carbon Monoxide via the HiPco Process: A Parametric Study, J. Vac. Sci. Technol. A 19(4), pgs. 1800-1805, Jul/Aug 2001.	
		I.W. CHIANG, B.E. BRINSON, A.Y. HUANG, P.A. WILLIS, M.J. BRONIKOWSKI, J.L. MARGRAVE, R.E. SMALLEY, AND R.H. HAUGE, Purification and Characterization of Single-Wall Carbon Nanotubes (SWNTs) Obtained from the Gas-Phase Decomposition of CO (HiPco Process), J. Phys. Chem. B 2001, 105, pg. 8297-8301.	
		T.T.M. PALSTRA, R.C. HADDON AND K.B. LYONS, Electric Current Induced Light Emission From C ₆₀ , Carbon Vol. 55, No. 12, pp. 1825-1831, 1997.	
		M.C. GORDILLO, J. BORONAT AND J. CASULLERAS, Zero-Temperature Equation of State of Quasi-One-Dimensional H ₂ , Physical Review Letters, September 11, 2000, Volume 85, Number 11, pp. 2348-2351	
		V.V. KLIMOV, V.S. LETOKHOV, Hard X-Radiation Emitted by a Charged Particle Moving in a Carbon Nanotube, Physics Letters A 222, pg. 424-428, Nov. 18, 1996.	
		M. TERRONES, F. BANHART, N. GROBERT, J.C CHARLIER, H. TERRONES, AND P.M. AJAYAN, Molecular Junctions by Joining Single-Walled Carbon Nanotubes, Physical Review Letters, Vol. 89, No. 7, pgs. 075505-1 to 075505-4, August 12, 2002.	
		S.H. TSAI, C.T. SHIU, W.J. JONG, H.C. SHIH, The Welding of Carbon Nanotubes, Carbon 28 (2000), pg. 1899-1902.	
		RAY. H. BAUGHMAN, ANVAR A. ZAKHIDOV, WALT A. DE HEER, Carbon Nanotubes-The Route Toward Applications, Science Vol. 297, pgs. 787-792, August 2, 2002.	
		JAMES D. BROWNridge, What's In a Genome?, Nature, Vol. 358, pgs. 287-288, July 23, 1992.	
		KAILI JIANG, QUNQING LI, SHOU SHAN FAN, Spinning Continuous Carbon Nanotube Yarns, Nature, Vol. 419, pg. 801, October 24, 2002.	

Examiner Signature	Date Considered
--------------------	-----------------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet

2

of

4

Complete if Known

Application Number	10/764,092
Filing Date	January 23, 2004
First Named Inventor	James Tour
Group Art Unit	unknown
Examiner Name	unknown

Attorney Docket Number 122302.00012

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		CYNTHIA MITCHELL, JEFFREY L. BAHR, SIVARAM AREPALLI, JAMES M. TOUR, AND RAMANAN KRISHNAMOORTI, Dispersion of Functionalized Carbon Nanotubes in Polystyrene, Macromolecules 2002, Vol. 35, pp. 8825-8830.	
		YUCHEN MA, YUEYUAN XIA, MINGWEN ZHAO, RUIJIN WANG, AND LIANGMO MEI, Effective Hydrogen Storage in Single-Wall Carbon Nanotubes, Physical Review B., Vol. 63, pp. 115422-1 through 115422-6.	
		KAYLENE ATKINSON, SIEGMAR ROTH, MICHAEL HIRSCHER AND WERNER GRUNWALD, Carbon Nanostructures: An Efficient Hydrogen Storage Medium for Fuel Cells?, Fuel Cells Bulletin No. 38, pp. 9-12.	
		JERZY BERNHOLC, CHRISTOPHER ROLAND AND BORIS I. YAKOBSON, Nanotubes, Current Opinion in Solid State & Materials Science, 1997, 2, pgs. 706-715.	
		A.C. DILLON, K.M. JONES, T.A. BEKKEDAH, C.H. KLANG, D.S. BETHUNE AND M.J. HEBEN, Storage of Hydrogen in Single-Walled Carbon Nanotubes, Nature, Vol. 386, pgs. 377-379, March 27, 1997.	
		A.C. DILLON AND M.J. HEBEN, Hydrogen Storage Using Carbon Adsorbents: Past, Present and Future, Appl. Phys. A 72, pp. 133-142 (2001).	
		AKIHIKO FUJIWARA, KENJI ISHII, HIROYOSHI SUEMATSU, HIROMICHI KATAURA, YUTAKA MANIWA, SHINZOU SUZUKI, AND YOHJI ACHIBA, Gas Adsorption in the Inside and Outside of Single-Walled Carbon Nanotubes, Chemical Physics Letters 336, pp. 205-211, March 16, 2001.	
		O. GULSEREN, T. YILDIRIM AND S. CIRACI, Effects of Hydrogen Adsorption on Single-Wall Carbon Nanotubes: Metallic Hydrogen Decoration, Physical Review B 66, pp. 121401-1 through 121401-4 (2002).	
		O. GULSEREN, T. YILDIRIM, AND S. CIRACI, Tunable Adsorption on Carbon Nanotubes, Physical Review Letters, Vol. 87, No. 11, pgs. 116802-1 to 116802-4, September 10, 2001.	
		SCOTT HYNEK, WARE FULLER AND JEFFREY BENTLEY, Hydrogen Storage by Carbon Sorption, Int. J. Hydrogen Energy, Vol. 22, No. 6, pp. 601-610, 1997.	
		SEUNG MI LEE, Novel Mechanism of Hydrogen Storage in Carbon Nanotubes, Journal of the Korean Physical Society, Vol. 38, No. 6, pgs. 686-691, June 6, 2001.	

Examiner Signature

Date Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Substitute for form 1449A/PTO			Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT			Application Number	10/764,092
(use as many sheets as necessary)			Filing Date	January 23, 2004
			First Named Inventor	James Tour
			Group Art Unit	unknown
			Examiner Name	unknown
Sheet	3	of	4	Attorney Docket Number
122302.00012				

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS				
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T ²
		SEUNG MI LEE AND YOUNG HEE LEE, Hydrogen Storage in Single-Walled Carbon Nanotubes, Applied Physics Letters, Vol. 76, No. 20, pgs. 2877-2879, May 15, 2000.		
		MARCO BUONGIORNO NARDELLI, B.I. YAKOBSON AND J. BERNHOLC, Brittle and Ductile Behavior in Carbon Nanotubes, Physical Review Letters, Vol. 81, No. 21, pgs. 4656-4659, November 23, 1998.		
		S. ORIMO, T. MATSUSHIMA AND H. FUJII, Hydrogen Desorption Property of Mechanically Prepared Nanostructured Graphite, Journal of Applied Physics, Vol. 90, No. 3, pgs. 1545-1549, August 1, 2001.		
		T. OZAKI, Y. IWASA, AND T. MITANI, Stiffness of Single-Walled Carbon Nanotubes under Large Strain, Physical Review Letters, Vol. 84, No. 8, pgs. 1712-1715, February 21, 2000.		
		JEAN-PAUL SALVETAT, G. ANDREW D. BRIGGS, JEAN-MARC BONARD, REVATHI R. BACSA, ANDRZEJ J. KULIK, THOMAS STOCKLI, NANCY A. BURNHAM, AND LASZLO FORRO, Elastic and Shear Moduli of Single-Walled Carbon Nanotube Ropes, Physical Review Letters, Vol. 82, No. 5, pgs. 944-947, February 1, 1999.		
		MASASHI SHIRAISHI, TAISHI TAKENOBU, ATSUO YAMADA, MASAFUMI ATA, AND HIROMICHI KATAURA, Hydrogen Storage in Single-Walled Carbon Nanotube Bundles and Peapods, Chemical Physics Letters 358, pgs. 213-218, May 31, 2002.		
		QINYU WANG AND J. KARL JOHNSON, Molecular Simulation of Hydrogen Adsorption in Single-Walled Carbon Nanotubes and Idealized Carbon Slit Pores, Journal of Chemical Physics, Vol. 110, No. 1, pgs. 577-586, January 1, 1999.		
		Y. YE, C.C. AHN, C. WITHAM, AND B. FULTZ, Hydrogen Adsorption and Cohesive Energy of Single-Walled Carbon Nanotubes, Applied Physics Letters, Vol. 74, No. 16, pgs. 2307-2309, April 19, 1999.		
		T. YILDIRIM, O. GULSEREN, AND S. CIRACI, Exohydrogenated Single-Wall Carbon Nanotubes, Physical Review B, Vol. 64, pgs. 075404-1 through 075404-5, 2001.		
		H. CHENG, F. LI, G. SU, H. PAN, L. HE, X. SUN, M. DRESSELHAUS, Large-Scale and Low-Cost Synthesis of Single-Walled Carbon Nanotubes by the Catalytic Pyrolysis of Hydrocarbons, Applied Physics Letters, Vol. 72, No. 25, pgs. 3282-3284, June 22, 1998.		
		T.G. DIETZ, M.A. DUNCAN, D.E. POWERS, AND R.E. SMALLY, Laser Production of Supersonic Metal Cluster Beams, J. Chem. Phys. Vol. 74, No. 11, pp. 6511-6512, June 1, 1981.		

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet

4

of

4

Complete if Known

Application Number	10/764,092
Filing Date	January 23, 2004
First Named Inventor	James Tour
Group Art Unit	unknown
Examiner Name	unknown

Attorney Docket Number

122302.00012

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		J.B.HOPKINS, P.R.R. LANGRIDGE-SMITH, M.D. MORSE, AND R.E. SMALLEY, Supersonic Metal Cluster Beams of Refractory Metals: Spectral Investigations of Ultracold Mo ₂ , J. Chem. Phys. Vol. 78, No. 4, February 15, 1983, pp. 1627-1637.	
		NORIaki HAMADA, SHIN-ICHI SAWADA, ATSUSHI OSHIYAMA, New One-Dimensional Conductors: Graphitic Microtubules, Physical Review Letters, Vol. 68, NO. 10, pp. 1579-1581, March 9, 1992.	
		T. GUO, P. NIKOLAEV, A. THESS, D.T. COLBERT, R.E. SMALLEY, Catalytic Growth of Single-Walled Nanotubes by Laser Vaporization, Chemical Physics Letters 243, pp. 49-54, September 8, 1995.	
		UDO KAATZE, Microwave Dielectric Properties of Liquids, Radiat. Phys. Chem., Vol. 45, No. 4, pp. 549-566, 1995.	
		UDO KAATZE, Fundamentals of Microwaves, Radiat. Phys. Chem., Vol. 45, No. 4, pp. 539-548, 1995.	
		U.S. Serial No. 10/845,722 filed on 5/14/04 entitled "Process and Apparatus for Energy Storage and Release."	
		U.S. Serial No. 10/846,045 filed on 5/14/04 entitled "Improved Process and Apparatus for Energy Storage and Release."	

Examiner Signature

Date Considered

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.